

CLAIMS:

1. A lighting device comprising at least one light source as well as a light reflector disposed beside the light source for reflection of at least part of the light radiated from the light source, characterized in that the light reflector comprises at least one light-transmitting element bounding a space at least in part, as well as a diffusely reflective powder present inside said space.

2. A lighting device according to claim 1, wherein said powder comprises calcium halophosphate, calcium pyrophosphate, BaSO_4 , MgO , YBO_3 , TiO_2 or Al_2O_3 particles.

3. A lighting device according to claim 2, wherein the particles have an average diameter ranging between 0.1 and 100 μm , in particular 5 to 20 μm .

4. A lighting device according to claim 2 or 3, wherein said particles are mixed with fine-grained Al_2O_3 particles having an average diameter which ranges between 10 and 50 nm.

5. A lighting device according to claim 4, wherein the amount of fine-grained Al_2O_3 particles having an average diameter ranging between 10 and 50 nm ranges between 0.1 and 5 wt. %, in particular 0.5 to 3 wt. %.

6. A lighting device according to any one of the preceding claims 1 - 5, wherein said space has a thickness greater than or equal to 0.5 mm, in particular greater than or equal to 1 mm, more in particular greater than or equal to 2 mm.

7. A lighting device according to any one of the preceding claims 1 - 6, wherein the light-transmitting element is a plate of glass or a synthetic material.

8. A lighting device according to any one of the preceding claims 1 - 7, wherein said space is bounded, at least in part, by said light-transmitting element and by another light-transmitting element.

5 9. A lighting device according to any one of the preceding claims 1 - 7, wherein the space is bounded, at least in part, by the light-transmitting element and by a component of the lighting device, in particular a housing of the light source or a lighting fixture of the lighting device.

10 10. A lighting device according to any one of the preceding claims 1 - 9, wherein said powder is mixed with colour pigments.

11. A lighting device according to any one of the preceding claims 1 - 10, wherein said powder is a "free-flowing" type powder.

15

12. A lighting device according to any one of the preceding claims 1 - 11, wherein the powder is incapable of absorbing light, at least light having a wavelength in the visible wavelength range.

20 13. A lighting device according to any one of the preceding claims 1 - 13, wherein a surface of the light-transmitting element facing towards the light source is optically roughened.

14. A lighting device according claim 13, wherein a surface of the light-
25 transmitting element facing towards the powder is likewise optically roughened.

15. A method for manufacturing a lighting device, in which at least one light source and at least one lighting fixture are supplied and in which a light reflector is arranged beside the light source for diffuse reflection of at least part of light radiated from the light
30 source and for specular reflection of at least another part of the light radiated from the light source so as to increase light output of the lighting device and to restrict the angular distribution of the intensity of the emitted light beam from the lighting device, characterized in that at least one light-transmitting element bounding a space at least in part, as well as a diffusely reflective powder present inside said space are used as the light reflector, wherein

the light-transmitting element comprises at least two substantially parallel, substantially optically smooth surfaces, and wherein the surface of the light-transmitting element that faces towards the light source extends substantially parallel to the surface of the lighting fixture facing the lamp.